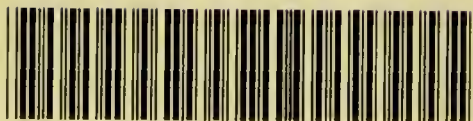


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a J. Ransom & Thorne
with the two authors
EIGHT CASES *not reported*

OF

O V A R I O T O M Y :

WITH

REMARKS ON THE MEANS OF DIMINISHING THE MORTALITY
AFTER THIS OPERATION.

BY

T. SPENCER WELLS, F.R.C.S.,

LECTURER ON SURGERY AT THE GROSVENOR-PLACE SCHOOL OF MEDICINE;

SURGEON TO THE SAMARITAN HOSPITAL;

ETC. ETC.

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THE following Paper appeared in the "Dublin Quarterly Journal of Medical Science" of this month. Since it was written, I have performed the operation of ovariectomy in four other cases ; but, as they were all performed in the month of October, I shall defer a report of them until I can speak more positively of the result. In one case death followed four days after the operation, from exhaustion ; another went on well for eight days, and then died, two days after, of acute tetanus. The other two are convalescent: giving a general result of four deaths and eight recoveries to twelve operations.

3, UPPER GROSVENOR-STREET, LONDON,
November 12, 1859.



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EIGHT CASES OF OVARIOTOMY,

&c. &c.

AN impression appears to prevail that some of the advocates of ovariectomy have published their successful cases, and have not published those which have terminated fatally. I therefore state at once that the eight cases which form the subject of the present paper are the only cases in which I have performed this operation. In one other case I made an exploratory incision, and did not proceed with the operation; but, as the progress of the disease was not affected by this incision, which healed without any ill effects upon the patient, who died four months afterwards, from spontaneous rupture of the cyst into the peritoneal cavity, it would not be right to include that case in the list of ovariectomy operations. I allude to it here, however, as I made the exploratory incision in December, 1857; and I believe that this, and a case I saw some months before with Dr. Snow Beck, where iodine was subsequently injected, were the first cases in which it was proposed to divide the pedicle of an ovarian tumour by means of the *écraseur*. I had long regarded the ligature on the peduncle, and the sloughing of the stump within the abdominal cavity, as one of the most frequent causes of death after ovariectomy. In cases where the peduncle is long, this danger can be avoided by fixing the stump outside the wound; but where the peduncle is short, the *écraseur* offers evident advantages. It was used in America, soon after the publication of my suggestion, by Dr. Atlee, who, on the 23rd of March, 1858, separated a pedicle one inch in length by four in breadth, in a lady sixty-one years of age, without loss of blood, and the result of the operation was completely successful. The practice has been followed up in America, for Dr. Pope relates four cases of ovariectomy in the St. Louis Medical and Surgical Journal for January, 1859, in two of which the *écraseur* was used to divide the pedicle.

I now propose to offer a short account of the eight cases in which I have performed ovariectomy, appending a few remarks to each case, and then make some suggestions as to the means of diminishing the mortality after this operation.

CASE I.—*Multilocular Ovarian Cyst, tapped seven times; twice injected with Iodine; rapid increase; Ovariectomy; perfect Recovery.*

A single woman, twenty-nine years of age, was admitted under my care into the Samaritan Hospital, on the 9th of February, 1858. She had been a general servant, and was in good health up to the age of twenty-one; she then began to complain of pain low down in the left side, extending to the loins; but she did not discover any tumour until five years later. The tumour increased gradually for a year, and, two years before she came under my care, she was admitted into Guy's Hospital, under the late Dr. Lever, and tapped. After six months she was readmitted, and tapped again; and a third time, after an interval of thirteen weeks. She went to Lambeth Workhouse in June, 1857, and was tapped there four times by Mr. Bullen, at intervals of about two months: the fluid discharged each time averaging about two gallons. Undiluted tincture of iodine was injected twice, but without the slightest benefit; on the contrary, the cyst appeared to fill faster than before.

On admission to the Samaritan Hospital it was evident that her health was rapidly giving way under this repeated accumulation and discharge of two gallons of fluid; but as she was cheerful, her constitutional power moderately good, and she earnestly desired to be relieved, at any risk, of a disease which made her life miserable, I decided, after consultation with my colleagues, to extirpate the tumour. I performed the operation on the 19th of February, 1858. I first made an incision three inches long in the linea alba, carrying it downwards from an inch below the umbilicus, and thus exposed the cyst, which was adherent to the parietes. After separating some of these adhesions, I emptied the principal cyst through a large trocar. Several secondary cysts were then felt, and the adhesions to the abdominal walls on either side were also found to be very firm and extensive. Some doubt was here expressed as to the propriety of proceeding further, but I felt that it would be more dangerous to stop than to proceed, and accordingly broke down some very firm and extensive adhesions by passing the hand between the abdominal wall and the cyst. In this stage Mr.

Baker Brown, who was present, afforded zealous assistance. A slighter adhesion of the upper part of the cyst to the omentum was also broken down by the hand. The peduncle was on the left side, and of the breadth of three fingers. I transixed it in two places, and tied it in three portions by whipcord ligature. The peduncle was so short that it could not be fastened in the wound. The right ovary was examined, and found to be healthy. The ligature passed through the lower part of the wound, and was carefully fixed to the skin by adhesive plaster. The edges and sides of the wound were brought accurately together by superficial and deep silk sutures, and the abdomen supported by a broad flannel bandage. The patient was under the influence of chloroform for forty minutes. She suffered from nausea and vomiting during the two following days, due, it appeared, rather to the chloroform than to the operation; or, perhaps, to the opium, which was given from the first to keep her free from pain. She had no sign of peritonitis at any time, but suffered a good deal from flatulence; and the pulse was very rapid and feeble for many days. Wine was given freely from the first. There was a very copious fetid sero-purulent discharge from the abdomen, through the portions of the wound kept open by the ligature on the peduncle: on two or three occasions, when the opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after cleaning the ligature. The wound united by first intention, except for about half an inch where the ligature passed. The bowels were not open until the tenth day, when they moved spontaneously. The ligature around the peduncle came away on the twelfth day, with a large slough attached to it. From this time the patient gradually improved. She became an under-nurse at the hospital; and in the autumn became the sole and general servant in a twelve-roomed house. Here she remained until early this year, doing a great deal of hard work, when she was induced to emigrate to Australia. Just before she embarked, Dr. West kindly examined her for me, on the 25th of January, 1859, and wrote as follows:—"As your patient was menstruating, I could not make any vaginal examination; but through the abdominal walls there is no trace of tumour perceptible; and there can be no doubt but that the case has been a complete success."

The cyst weighed, with its contents, twenty-six pounds. The contents consisted of the ordinary viscid fluid, containing many granular cells. The principal cyst formed the upper part

of the tumour. The lower part consisted of a number of smaller cysts, which had filled the pelvic cavity, and were moulded to its form. Most of the cysts appeared to have been developed independently of the principal cavity, and independently of each other; small scattered cysts may be seen in different parts of the largest cavity, but these are all developed in the substance of the fibrous wall, and were covered by the serous layer extended over the largest cyst.

Remarks.—Looking to the strong fibrous partitions between the principal and the smaller cysts composing this tumour, it is quite evident that no fluid injected into the large cyst could reach the smaller cysts. Hence the important practical deduction, that success can only be reasonably hoped for from iodine injections, when an ovarian cyst is simple or unilocular.

CASE II.—*Multilocular Ovarian Cyst, tapped three times; Ovariectomy; adhesions to Liver; perfect Recovery.*

A married woman, thirty-eight years of age, was sent to me in July, 1858, by Mr. Ottaway, of Dover. She was married in 1851, and has had three children, but no miscarriage. She was in good health up to the birth of her last child, two years and four months before I saw her. She then noticed that the abdomen did not diminish in size so much as after her previous confinements; she could not say when she first perceived any distinct tumour, but the swelling of the abdomen gradually increased after her confinement, until March, 1858, when Mr. Ottaway tapped her, and removed eighteen quarts of clear, thin fluid. The sac filled again rapidly, and Mr. Ottaway tapped a second time early in June, removing seventeen quarts of a thicker fluid. It was six weeks after this tapping when she came to town, and she was then becoming oppressed by the quantity of fluid. The catamenia had been generally regular, but had not appeared for eleven weeks until the day she came to town. Owing to repairs going on at the hospital, it was impossible to admit her, and, as she became much distressed in her breathing by the rapid accumulation of fluid, I tapped her at her lodging, on the 15th of July, and removed fourteen quarts of thick fluid. When the sac was empty, I felt some small outgrowths from its right wall: they were attached to the abdominal parietes.

The sac refilled rapidly, and, as her general health was pretty good, although she was suffering from the rapid accu-

mulation of fluid in the cyst, and was very desirous of having the cyst removed, although the danger of the operation was fairly put before her, I performed it, after consultation with my colleagues, on the 11th of August, 1858. As I was very anxious to avoid vomiting after the operation, she took ice for two hours before it; and Dr. Richardson administered a mixture of one part of chloroform to six parts of ether instead of pure chloroform. I had hoped to be able to complete the operation by a small incision, but the separation of the cyst from its attachments was rendered difficult by adhesions between the cysts and its coverings,—so intimate that it was not easy to make out the exact line of separation between them,—and it was only after enlarging the incision and cutting into the cyst, that this could be made out accurately. Then the irregular outgrowths from the right wall of the cyst just alluded to were found to consist of an aggregation of small multilocular cysts, which were firmly attached to the under surface of the liver and the coats of the gall-bladder, and it was, of course, necessary to be extremely careful in completing the separation. The peduncle was tied by strong twine, in four separate portions, each the breadth of a finger, and the portion left was long enough to be fixed between the edges of the wound. The wound was carefully closed by hare-lip pins, the lowest pin transfixing both edges of the wound and the peduncle, so as to prevent its sinking into the abdomen. The cyst weighed one pound five ounces, and the contents twenty-nine pounds ten ounces.

The patient slept well at night, and, on the day after the operation, said she did not feel so ill as she had been after her labours. A one-grain opium pill had been given every three hours, but, on account of nausea and occasional vomiting, a morphia suppository was substituted for the pills. The urine was removed by the catheter thrice daily.

On the third day a spontaneous diarrhœa set in, but soon subsided. The wound united by the first intention; the pulse ranged from 120 to 140 until the eighth day, when it was down to 100 for the first time; she then sat up in bed, and did some needle-work.

On the ninth day the peduncle had completely sloughed through, except at one spot, which I secured by a fresh ligature, and removed the old one with the slough. She only had a suppository twice a day at this time.

The new ligature on the remnant of the peduncle came away on the tenth day, and from this time she rapidly regained

strength; the wound soon closed, and she left the hospital three weeks from the day of operation.

Mr. Ottaway, of Dover, saw her on the 2nd of February, 1859, and, in a letter to me, says, he "found her over the wash-tub, where she had been all day." He adds: "She tells me that she is 'as well as ever she was in her life, and much better than she has been for many years past;' that 'she does the whole of her household work, and minds her children without help; that she occasionally walks to St. Margaret's Bay and back, a distance of seven miles, without unusual fatigue; and, in fine, that she could not wish to be better.' She looks cheerful and animated, and, from being a" sallow, emaciated, unhealthy-looking being, has now the appearance of a person in robust health, muscular and strong. She has menstruated fairly only once since she left the hospital. At the beginning of November she had an appearance, for a day only; since that time, not at all; and as the mammæ are becoming more full, attention will be directed to the possibility of her being pregnant," an event not at all impossible, as many cases are recorded where women have borne several children after the extirpation of an ovary.

CASE III.—*Ovarian Tumour and Ascites; removal of a Tumour weighing twenty-one pounds, and fifty-seven pounds of Ascitic Fluid; Recovery.*

A married woman, aged 33, was admitted under my care, in the Samaritan Hospital, on the 1st of November, 1858. She was married ten years before, and had four children, and one miscarriage between the first and second child; the youngest child was three years old, and all her children were living. She was quite well up to her last labour, but did not diminish in size after it. Two months afterwards she began to complain of pain just above the symphysis pubis; and about a year ago first felt a hard movable tumour in this situation. Rapid increase followed. The catamenia had been regular, though scanty, up to the end of May; since then they had ceased.

On admission she appeared extremely weak and much emaciated. She was fifty-seven inches in girth at the umbilicus, and thirty inches from the ensiform cartilage to the symphysis pubis. She could only sleep in a sitting posture. The heart and liver were displaced upwards; the skin of the abdomen was fissured, and marked by large veins and varicose lymphatics; the en-

largement was quite equal on both sides, and there was the bulging outwards of the flanks characteristic of ascites; perfect fluctuation was felt equally in all directions over the abdomen; the abdomen was generally dull on percussion, but a clear note showed that the stomach and intestines were lying in the epigastric and right lumbar regions principally, and also in the left lumbar region. The situation of dull and clear sound was not altered by any position of the patient. No tumour could be felt by the deepest pressure the patient could bear. The anterior wall of the vagina was depressed; the uterus admitted the sound for three inches, but the organ was not so freely movable as in the normal state. It was felt to be impossible to say positively if there was ascites (with distention so great that the intestines could not reach the abdominal wall, or were bound down by adhesions), or a large simple ovarian cyst; but, taking the positive statement of the woman as to the previous existence of a hard movable tumour, the most probable supposition was, that an ovarian tumour was surrounded by a large quantity of ascitic fluid. As the line of clear sound on percussion in the epigastrium descended about an inch and a half on full inspiration, it also appeared probable that any tumour was unattached anteriorly.

As the woman placed herself entirely in my hands, after the danger of the operation had been explained to her, I decided, after consultation with my colleagues, to make an exploratory puncture, evacuate the fluid, and then, having everything prepared for ovariectomy, perform it or not according to circumstances.

On the 5th of November, accordingly, after the usual preparations, and chloroform having been administered by Dr. Priestley, I drew off fifty-seven pints of thin, turbid serum. A very irregular lobulated tumour was then felt; on exposure and puncture by the trocar, its contents were found to be too thick and glutinous to escape, even when an incision was made into it. It became necessary, therefore, to enlarge the incision sufficiently to admit of the removal of the tumour entire. This was done, and the incision then reached from about an inch above the symphysis pubis to two inches above the umbilicus. Superiorly and posteriorly there were adhesions to the omentum and small intestines. These were easily broken down; but one around the brim of the pelvis was separated with more difficulty. The peduncle was on the left side, very short and broad; it was secured between the blades of a metal clamp, and the tumour was then cut away. There was then

very considerable hemorrhage, which at first appeared to come from one end of the peduncle; but, after securing this by a ligature, the bleeding was still unchecked and alarming, and the source was discovered to be a rent in a very large vein on the right side, running along the brim of the pelvis. I caught the sides of the rent with a toothed forceps, and put on a lateral ligature, so as to stop the hemorrhage without also stopping the current of blood in the vein. The abdomen and pelvis were then carefully sponged clean of blood. The right ovary was examined and found to be healthy. The wound was brought together by nine hare-lip pins and twisted suture; the peduncle and clamp being kept outside the wound.

The progress of the case, after operation, was almost uninterruptedly one of recovery. There was neither pain, thirst, nor sickness; the chief complaint was of flatulence; the pulse ranged from 120 to 130 for a fortnight, and then gradually sank to 110 and 100; the pins were removed on the fifth day, and the wound was found quite healed, except at the spot where the peduncle and ligature passed; the clamp came away on the eighth day, and the ligature on the vein on the ninth; on the tenth day the bowels acted three times after an enema of warm water. From this time she rapidly gained strength, and left the hospital exactly four weeks after the operation, the heart and liver having returned to their normal situations.

The treatment consisted in the use of morphia suppositories, and of sufficient nourishment and stimulants; no medicine was given by the mouth: a third of a grain of morphia was given in suppository at first, three times a day, afterwards only twice, and it was discontinued after a fortnight. The urine was removed by the catheter three times a day for the first week, but she passed it easily as soon as the bowels were open.

The tumour, as removed, some two or three pints of its contents having been previously emptied, weighed twenty-one pounds. The external capsule was firm, fibrous, and very vascular; section showed an immense number of imperfect cysts or alveolar cavities, from the size of a pea to that of a small apple, and one large cyst which had contained from two to three pints of viscid fluid. The walls of the cyst and alveoli were very vascular, enclosing a semi-opaque, jelly-like substance, varying in colour from white to dark chocolate in different places, and in consistence from that of firm jelly to that of white of egg. By a little pressure this matter was made to exude easily from the divided cavities. Thus the tumour might be described as a fibrous net-work, forming irregular cavities

containing gelatinous matter. After maceration and squeezing out the contents, the septa were seen to form very imperfect separations between the cavities, and the skeleton of the growth was so far identical with that of colloid or alveolar cancer. Microscopical examination of the viscid, tenacious contents led to the belief that it was not true colloid. A great abundance of molecular matter was seen with free nuclei, and small oval or rounded cells, about the diameter of blood corpuscles; also numerous large granular corpuscles, from two to three times the diameter of blood corpuscles, and an abundance of oil globules. It is a question, however, whether the distinction between the compound ovarian cyst (or multilocular ovarian tumour, or pseudo-colloid disease of the ovary) and true colloid disease, is as well made out by any observation of minute structural difference as in the clinical history; especially in the important fact that the former disease shows no tendency either to reproduction in distant parts of the system or to contaminate neighbouring parts or glands.

This patient has been heard of several times since she returned home, and the accounts were for some time most favourable. Mr. Jardine, of Capel, near Dorking, who sent her to me, wrote, on the 3rd of February, 1859, saying that he had not seen her lately, as she had gone twenty miles off for a week or two, but he adds, "her husband tells me that she is getting stout, and has very good health. She was weighed three weeks ago, and had gained fifteen pounds since leaving the hospital." She continued strong and robust until the summer, when she began to suffer from some intestinal obstruction.

CASE IV.—*Multilocular Ovarian Tumour; Ovariectomy; Death thirty-two hours afterwards.*

A single woman, thirty-nine years of age, was admitted under my care to the Samaritan Hospital, on the 4th of January, 1859. She had been quite well until between two and three years before. In the autumn of 1856 she first began to complain of pain in the left groin. This increased, but she did not notice any swelling until May, 1857, when a tumour was discovered on that side, which had steadily increased in size up to the time I saw her. She was always "regular" before this, and up to the end of 1857, when the catamenia ceased, and have not appeared since. In October, 1858, she had some temporary œdema of the legs, and the growth of the tumour has been more rapid since. She has lost flesh lately, and is

somewhat emaciated, but the complexion is healthy; she suffers a good deal at times from pain in the abdomen and flatulency, and is very breathless on any exertion; otherwise in pretty good health. The abdomen was filled by a large tumour, reaching from the pubes to half-way between the umbilicus and cruceiform cartilage. Below the umbilicus it was divided by a sulcus which gave the impression of their being two tumours, and, of the gentlemen who examined the case with me, about half inclined to the belief of there being two, and the remainder thought there was no evidence of there being more than one multilocular tumour. Fluctuation was distinct, but limited to several small spaces. The fact of the catamenia having entirely ceased for a year was thought to favour the view of both ovaries being diseased. Vaginal examination showed that the uterus was atrophied, and somewhat raised from its natural position. As she was very short-breathed at times, Dr. Graily Hewitt examined the chest, and reported the heart to be healthy, and the lungs also, but that the right lung was compressed considerably by the elevation of the liver and diaphragm.

Taking into consideration the rapid growth of the tumour, its multilocular character, its effects upon the general health, and the hopelessness of any other mode of treatment, I decided, after consultation, to agree to the earnest wish of the patient to have the tumour removed, a wish expressed after full explanation of the dangerous nature of the operation. It was delayed for ten days on account of an eruption of herpes on one side of the chest, but, when this had disappeared, I performed the operation on the 21st of January, 1859, precisely as in the former cases, and after the same preparations. There were no adhesions, nor any fluid in the peritoneal cavity, but from one to two pints of viscid fluid flowed from a very thin-walled cyst, which was lying close to the linea alba. The incision extended from two inches above the symphysis pubis to the same distance above the umbilicus, as the contents of the cysts were too viscid to be taken away, and it was necessary to remove the tumour entire. The peduncle was little more than an inch in length, and of about three fingers' breadth. I enclosed it in a clamp, and screwed this as tightly as possible, but, after cutting away the tumour, one end of the cut peduncle slipped from the clamp, and I was obliged to transfix it, and tie in two portions to stop rather a free hemorrhage. Some delay was thus occasioned, and a few ounces of blood were lost. It was also necessary to tie a vessel in a small piece of omentum.

tum, which had adhered to the cyst. The peritoneal cavity was thoroughly cleaned from all blood, and the edges of the wound brought together by gilded hare-lip pins. One of these pins happened to transfix a small vessel, and it was also necessary to tie this on both sides of the wound. The peduncle was fixed outside the wound, although not without some tension, and the clamp was then used to prevent any danger from its slipping within the abdomen. The patient had been kept under the influence of chloroform. Her pulse was a very good one at 100 when the operation was concluded. About an hour afterwards, when the influence of the chloroform had subsided, she began to complain of some pain in the abdomen, and a suppository containing one-third of a grain of acetate of morphia was passed into the rectum. The pain continued about an hour, two other suppositories being given at intervals of half an hour. The pain was then relieved, but not entirely so, and a fourth suppository was given after another hour; she then seemed inclined to sleep. The tongue was clean and moist; pulse 104, and soft. Half an ounce of brandy was then given in water. She was refreshed by some sleep, but as she was not quite easy, and the pulse was up to 112, a fifth suppository was given at half-past 9 o'clock; at 11 o'clock the pulse was 130; skin and tongue moist; six ounces of urine removed by the catheter. There had been no sickness since the operation, and I left general directions to repeat the suppository when pain or restlessness rendered it necessary.

I saw her at 9 o'clock A. M. on the next morning, when the report was that she had had no pain, but did not sleep, and a sixth suppository was given at midnight. After this she had passed a very comfortable night, sleeping soundly from 2 in the morning. She complained neither of pain nor sickness, though there was considerable distention of the intestines by flatus. The countenance was very cheerful; but only four ounces of urine were removed from the bladder on using the catheter. Pulse 124, soft. She took her breakfast with appetite, and then a seventh suppository was given. She was remarkably well all the forenoon; took some beef-tea with good appetite; said she felt very comfortable, flatulence being the only source of discomfort. With a view of keeping her comfortable, and preventing any return of pain, another suppository, the eighth, was given at noon, but it afterwards appeared that only about half of this had passed from the tube by which it was administered. I saw her at 4 o'clock P. M.; she was then apparently doing well, but I thought the pulse

was rather feeble, and there was a slight appearance of anxiety about the eye-brows, and the flatulence was still troublesome. An aromatic draught, with twenty minims of chloric ether, was given, and she asked for some tea and drank it, and then, in about half an hour, suddenly went off into collapse, the pulse becoming almost imperceptible, the skin bathed in profuse perspiration, the breathing stertorous, pupils contracted, and on passing the catheter it was found that no urine had been secreted since the morning. Brandy and ether were thrown into the rectum, as she was incapable of swallowing; but she never rallied, and died thirty-two hours after the operation.

Dr. Aitken kindly made an examination of the body for me, twelve hours after death. He reflected the anterior abdominal wall over the thighs, thus exposing to view the peritoneal aspect of the wound, the intestines, and the omentum. About the middle of the wound the metallic surfaces of three of the sutures were visible, crossing the incision, so that during life they must have been in contact with the peritoneal surface of the intestine. The bowels were greatly distended with gas, and this distention, doubtless, had the effect of separating still more the peritoneal edges of the wound. Dr. Aitken adds: "The parietal peritoneum in the immediate vicinity of the wound was dotted over with spots of hemorrhagic congestion; and recent lymph was abundantly effused on the surface of the peritoneum. The lymph appeared to spread from the wound as a centre, and gradually disappeared on the peritoneum covering the lateral regions of the abdominal wall. The impress of the wound was obvious on the surface of the gut, in contact with it. Some coagula of blood, and an abundant, consistent, lymph exudation upon the peritoneal surface of the intestine corresponded to the edges of the incision and surface of the wound. An abundant exudation of recent lymph glued the opposed surfaces of the intestines to each other. This exudation was most abundant, and the process seemed to have been most intense in the immediate vicinity of the wound. It became less obvious, and was entirely absent as the attachment of the mesentery to the back part of the abdomen was approached. The lateral and posterior parts of the abdominal cavity were free from lymph exudations, and the peritoneum appeared natural. A considerable amount of free liquid was present in the cavity generally; and in some places (as over the anterior margin of the liver, and surface of the stomach and transverse colon) it was pent up within cavities formed by recent exuda-

tion. The fluid exudation was of an aerimonious nature, if one may judge from its effects upon the hands after frequent immersion in it, the body being yet warm. The fluid had a pungent, irritant effect upon the thin skin beneath the edges of the nails and surrounding their matricees. The peduncle of the tumour was secured by a clamp outside the wound, and also by ligatures. They embraced the Fallopian tube, a reduplication of the round ligament, the broad ligament of the uterus, and accompanying blood-vessels. The peritoneal surfaces of the pelvis and pelvic viscera were free from lymphic exudations, and appeared healthy; the kidneys were normal. No further examination was made."

I appended the following remarks on this case in a paper read before the Royal Medical and Chirurgical Society, February 8, 1859:—

"Seeing that this patient had completely recovered from the shock of the operation, and from the effects of the chloroform, the question arises, what was the cause of her death? It may be said that after so severe an operation we need not be too curious on this point,—that death was what might be expected with far greater probability than recovery. But in the cases previously related the peritoneum had been quite as much exposed; the adhesions had been more extensive; in one it had been necessary to leave the ligature on the peduncle within the abdomen; in the second it had been necessary to separate adhesions to the liver and gall-bladder; in the third there had been enormous ascites, considerable hemorrhage, and a very large vein had been tied. Yet in all these cases, apparently so much more unfavourable, recovery had been complete. Why, then, did this patient die?

"In the first place, did she get too much opium? She had two grains of morphia, in divided doses, within ten hours after the operation, and one grain in the succeeding twelve hours. Yet it was not until four hours after the last dose, that any bad symptoms appeared which could be attributed to opium. Possibly the ill effect might have been indirect, causing suppression of urine; and it is possible that the suppositories were not equally mixed by the druggist; that some of them given early produced little effect, containing little morphia, while those given later were too strong, and told with too great effect. Still, the reply remains—she was well for four hours after the last dose.

"Secondly, did she die from peritonitis? Some who consider the amount of lymph effused, and the quantity of serum

found in the peritoneal cavity, would answer this question unhesitatingly in the affirmative. But I doubt if simple peritonitis was sufficient to cause such sudden collapse. It was partial, confined to the visceral layer opposed to the wounded surface only, not dipping down among the coils of intestine. My impression is, that if peritonitis killed her, it was indirectly, by the formation of a morbid poison. The serum was very acrid: it made Dr. Aitken's hands smart for some time; had he wounded himself, in all probability he would have suffered from morbid poisoning. Had he attended a woman in labour, in all probability that woman would have had puerperal peritonitis. If, then, my patient could generate a poison capable of killing other people, may it not have killed her? It was, probably, formed only from the inflamed portion of the peritoneum, the other portion being quite capable of absorbing rapidly. It will be seen that this inquiry is not without its practical importance, suggesting, as it does, the inference that it may possibly be advisable, in some cases, to provide for a free outlet of the effused serum. I should say, that by the use of new sponges only, new flannel, clean bedding, and newly ground or gilded instruments, I had carefully guarded against any putrid infection.

"Thirdly, had the bleeding from the peduncle or omentum any injurious influence? I should say, if any, it was only indirect, by leading to delay, longer exposure of intestine, and more necessity for cleansing the peritoneal cavity.

"Lastly, was the sudden collapse an example of that condition so well described by Dr. Simpson, as an occasional occurrence after any operation implicating the uterus and its appendages? He relates cases which had been observed by Lisfranc and himself, when a sudden faint or collapse, without premonitory symptoms, came on after excision of portions of the uterus. He saw it also in a patient upon whom Mr. Syme had performed the perineal section; in two or three cases after the emptying of an ovarian cyst; and once or twice after the termination of natural labour. He adds:—'It is an accident which seems peculiarly liable to occur after operations or injuries about the pelvic organs; and no sufficient explanation of it has yet been offered, nor does it even appear that sufficient attention has yet been given to it. I am not sure but that in amputating the cervix uteri, by obviating the necessity of forcibly dragging down the uterus from its position in the pelvis, we do something towards the prevention of this alarming and dangerous complication.' These observations of Dr. Simpson

are of great value, for if it were proved that traction upon the uterus was sometimes a cause of fatal collapse, it would lead us, in cases of short peduncle, rather to leave the stump within the abdominal cavity, than to draw the uterus far from its natural position in order to keep the stump of the peduncle outside the wound.

“ Without pretending to any very accurate estimate of the share each of these agencies may have had in causing death, I will briefly state, that the lessons impressed upon my own mind by the case are,—first, that while my confidence in opium, as a preventive of peritonitis and as a remedial agent of great value in its treatment, is unshaken, I shall give it for the future in solution, not in the solid form. In the latter case, one is dependent upon the accuracy of the druggist, and it is possible that solution in the intestine may go on slowly for a time, and that a second or third suppository may be given before the first is dissolved. I shall adhere to the plan of giving it by the rectum, as less likely to induce vomiting, and to interfere with the digestion of food, and I shall administer it in solution by a graduated syringe formed to inject one, two, three, or four drachms of fluid with perfect accuracy.

“ Secondly, if with pain in the abdomen there were the physical signs of serous effusion, I would provide for the escape of this serum through some portion of the wound.

“ Thirdly, in a case of very short peduncle, I would either cut away a portion of the cyst, so as to add to the length of the peduncle, or I would rather leave the stump in the abdominal cavity, including it in an India-rubber tube, than exert much traction upon the uterus.

“ Lastly, in bringing the edges of the wound together, I would take care to pass the pins not only through the abdominal wall, but they should pass through the peritoneum some little distance from the wound on either side, so that the divided edges of the peritoneum might be fairly brought into apposition, and no purulent secretion from the wound in the skin, fascia, or muscle could enter the peritoneal cavity.”

CASE V.—Compound Ovarian Tumour; Ascites; Ovariectomy; successful result.

R. W., aged 43, came from Dorking to consult me, and was admitted into the Samaritan Hospital, March 28, 1859.

History.—She had been married twenty years; has had eight children, seven of whom are living. Her mother is said to have died of ascites, but it might have been ovarian dropsy.

Four years ago she was confined with her last child. During her pregnancy she had a great deal of pain in the left side. This disappeared after the labour, but her abdomen did not diminish in size as usual. On the contrary, it continued to increase gradually, but very slowly, until September, 1858, when the increase became more rapid. It was not noticed to increase more on one side than the other, but extended centrally from below upwards. Since the more rapid increase she has lost health, strength, appetite, and flesh. The catamenia have been quite regular, but there was a greater quantity than usual last time.

Present State.—She is a large, spare woman, of very sallow complexion, and the skin is blotched in brown patches, very much like “bronzed skin.” Bowels regular; rapid, very feeble pulse. The appearance of the abdomen is well represented by the appended wood-cut, copied from a photograph taken by Dr. Wright, but some months later, just before the operation.



Fig. 1.

The girth of the umbilicus was fifty-three inches, while the vertical measurement from the ensiform cartilage to the symphysis pubis was twenty-eight inches. She had an umbilical hernia long before the commencement of her present disease, and the skin at this spot was thin and transparent, being distended almost to bursting. Between the umbilicus and the symphysis pubis the skin was raised by dilated and varicose lymphatics,

presenting a very peculiar appearance. No solid tumour could be felt, but a fluctuation was very distinct all over the abdomen, though more distinct above, and less below; and, as percussion showed that the intestines were in the lumbar and hypochondriac regions, it was thought probable that an ovarian tumour was surrounded by ascitic fluid. Vaginal examination did not settle the question. The anterior wall of the vagina was somewhat depressed, but the uterus was movable, and no solid tumour could be felt.

Progress of the Case.—Partly because the skin at the umbilicus threatened to give way, and the patient was suffering greatly from distention, and partly to settle the diagnosis, I tapped the abdomen and removed six gallons of pale, amber-coloured, highly albuminous serum. A movable, unattached ovarian tumour was then discovered, apparently about the size of a man's head.

She suffered a good deal from sickness and depression for some days after the tapping, but left the hospital on the 4th of April, provided with an elastic belt and umbilical pad, with directions to return before the abdomen became as much distended as it had been.

She remained in the country until May 7th, when she was readmitted. The girth of the umbilicus was then fifty-one inches, and the distance between the ensiform cartilage and symphysis pubis twenty-eight inches. The catamenia had not appeared since she left the hospital, but they came on the day after she returned.

It now became a question whether ovariectomy should be performed at once, or whether an attempt should be made to lessen the shock of the operation by removing the ascitic fluid first, and the tumour in a few days afterwards. After consultation, I decided on the latter course, and removed forty-nine pounds ten ounces of ascitic fluid on the 9th of May. Sickness, tympanitis, some pain, and rapid, feeble pulse continued for ten days after the tapping; and it was not until the 24th of May that she was in a state sufficiently favourable for operation.

Operation, May 24th, at half-past 4, P. M.—I was anxious, if possible, to remove the tumour before much ascitic fluid escaped, in order that this fluid might serve as a protection to the intestines from the air. Accordingly, as soon as the integuments were divided over the linea alba from two inches above the umbilicus to about the same distance above the symphysis pubis, and some bleeding from superficial vessels had ceased, Dr. Routh pressed the tumour well forwards, as I rapidly laid

the peritoneal cavity open throughout the whole extent of the incision. There were only one or two slight omental adhesions, and as soon as these were separated by the hand the tumour was easily removed. The pedicle was formed of the right Fallopian tube, and broad and round ligaments, and was so very short that the clamp used to secure it was placed close to the uterus. The tumour was removed by cutting away, leaving a portion of it projecting as a mushroom outside the clamp. Scarcely an ounce of blood was lost. The wound was united by five harelip pins passed through the whole thickness of the abdominal parietes, including the peritoneum, which was perforated on each side, at about a third of an inch from the divided edge; the needles perforating the skin on each side at about an inch from the divided edge. Superficial sutures of silver wire were introduced between each pin. The clamp and stump of the pedicle were both outside on the abdomen, and the wound closed around. Not until the wound was nearly united was the ascitic fluid pressed out. The operation only occupied ten minutes. Lint was placed over the wound, and the abdomen supported by a flannel bandage. The tumour was a good specimen of the pseudo-colloid ovarian tumour, or compound ovarian cyst, and weighed ten pounds. The patient remained rather faint, and very sick for about an hour, when she began to recover. A morphia suppository (one-third of a grain), was introduced at 6 o'clock, p. m. A little brandy and water was given, and she began to feel better. At 10 o'clock, p. m., as there was some pain, a second suppository was given.

First day after operation. Vomiting continues troublesome, but she has had a fair night. Pulse 98; skin moist and warm; tongue clean; no pain; urine passed by catheter scanty and high coloured. Six minims of hydrocyanic acid were given in an ounce of water, but it was soon thrown up. Effervescing draughts were given in the afternoon; but the sickness continued, and she kept nothing on the stomach all day; still at night she was cheerful and without pain, and the urine increased in quantity.

Second day. Pulse stronger than it was before the operation. Some inclination in the bowels to act. Going on well in all respects. There was some abdominal pain in the afternoon, and another suppository was given. Vomiting had continued, but she kept some tea and toast down this afternoon. At night there was sickness and faintness, with small, feeble pulse, and anxious countenance; and small quantities of brandy and iced water were given at intervals through the night.

Third day. Sickness continues; pulse 120, very feeble; she is very low and faint, and the skin covered with a cold clammy perspiration; breathing a good deal oppressed; urine scanty and high coloured. Finding the physical signs of a large accumulation of fluid in the peritoneal cavity, I removed the clamp; and, after fixing the pedicle by a ligature, introduced my finger beside it, and thus gave exit to several pints of very fetid serum. She felt very much relieved after this. The sickness ceased two or three hours afterwards, and she kept down some eider, to which she took a fancy, and some veal broth afterwards. The pulse ranged to-day between 140 and 130.

Fourth day. Better all the morning, but in the afternoon she attempted to get to the night-chair, of course against orders, and was very much exhausted afterwards. She was faint, bedewed with cold perspiration; the hands and feet very cold; and the pulse almost imperceptible. Brandy was given freely, and she rallied. Then retching became very distressing, and a turpentine enema was given. This came away with some fæces, and a large amount of flatus. Rum and milk were afterwards injected into the rectum, and brandy was given every hour with water.

Fifth day. She is rallying. Sickness ceased after some iced champagne which was given this morning. The harelip pins were removed, and the wound found well united deeply, though the edges of the skin had not united. There is still a considerable discharge of fetid serum from the lower portion of the wound, where the ligature on the remains of the pedicle passes. Six ounces of strong beef-tea, with half an ounce of brandy, were injected into the rectum three times to-day, and she drank a quart bottle of champagne. A large quantity of flatus passes *per ano*.

Sixth day. Rather better all day; but is much troubled by flatulent distention of the abdomen. An enema of two drachms of tincture of assafoetida, and half an ounce of turpentine in a pint of thin arrow-root, was given, which came away soon afterwards, followed by a great deal of flatus, and much relief. Pulse has ranged as yet from 120 to 130. The enemata of beef-tea and brandy were continued, and she took champagne freely.

Seventh day. Pulse down to 108; urine more copious; abdomen much diminished in size. Beef-tea enemata and champagne as yesterday.

Second week. During this week there was a gradual amendment, though sickness and flatulence were troublesome

at times. The ligature came away with the sloughing stump of the pedicle on the eighth day, when the superficial sutures were removed, with the exception of one. Pulse ranging from 108 to 96, until the thirteenth day, when it ran up to 130 after a restless night. In the afternoon of this day there was a very large discharge of fetid pus from the opening left by the passage of the pedicle. She was low and heavy after this for some hours, and complained of cold feet; but some abdominal pain which had troubled her disappeared.

Third week. This was a week of slow, but steady improvement. She began to take food with appetite; the bowels acted regularly; the pulse ranged from 120 to 100. The urine was passed in natural quantity; the discharge from the wound gradually ceased: she began to sit up; the opening where the pedicle passed very rapidly filled by granulation; she passed good nights, rapidly gained strength, and left the hospital to return to Dorking by railway, on the 20th of June, twenty-seven days after the operation, and she was in robust health when seen there on the 30th of August.

Remarks.—One point of great practical interest in this case, namely, the propriety of removing ascitic fluid surrounding ovarian tumours as a preliminary step some days before ovariectomy, will be further illustrated by the history of the next case. The plan of uniting the wound by including the peritoneum in the sutures is one also worthy of remark. A third point of importance is the removal of the tumour while the peritoneal cavity is protected by the presence of the ascitic fluid. A fourth is the evacuation of the serum collecting in this cavity after the operation by opening the wound, as suggested in the remarks on the last case. Whatever may be thought of the hypothesis there advanced, it is very clear that, in the case above narrated, the practice so recommended was attended with the most marked success. The first evacuation of the serum was followed by immediate amendment, and some days afterwards the alarming symptoms disappeared soon after the escape of some fetid pus. This was precisely what was observed in Case I., where there was a very copious fetid sero-purulent discharge from the abdomen through the portion of the wound kept open by the ligature on the peduncle. It may be remembered that on two or three occasions when this opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after clearing the ligature.

CASE VI.—*Fibrous and cystic Ovarian Tumour; Ascites; Pleural Effusion; Ovariectomy; Death forty hours after Operation.*

E. Q., aged 29, was first admitted to the Samaritan Hospital, March 20, 1858.

History.—She was married seven years ago; her husband is alive, but she has had no children. First observed a tumour accidentally, low down in the right side, in May, 1857. She was attended by Mr. Roper, of Shoreditch, and Dr. Oldham saw her in November. The *ballotement* of the tumour was then so distinct that the possibility of pregnancy was suggested. After this the tumour increased, and the abdomen enlarged rapidly from the collection of ascitic fluid.

State on Admission.—A small, spare, delicate woman, with abdomen larger than a woman at the full period of pregnancy. At the lower part of the abdomen there is a solid tumour freely movable, not fluctuating. The os uteri does not admit the uterine sound; motion of the tumour is communicated instantly to the uterus. The catamenia have been regular, but rather excessive.

Progress of the Case.—As she was suffering greatly from abdominal distention, I tapped her on March 22nd, and removed thirty pints of turbid serum. The tumour was then found to be rather more to the right than left side, freely movable, smooth and hard, and measuring about seven inches by six. A certain amount of feverishness and pain followed the tapping, and some pain in the chest, and cough. A sinapism was applied to the chest on the right side. Bitartrate of potash was given three times a day in drachm doses, and small doses of morphia occasionally. She was afterwards put upon cod-liver oil, and a blister was applied. She left the hospital on May 11th, a note being taken at the time that the respiratory murmur was puerile on the left side, and defective below on the right side, where there were dulness on percussion, and absence of vocal fremitus.

She remained at home until November, 1858, when she was readmitted. At this time there was, as before, considerable doubt as to the nature of the tumour, and it was felt almost impossible to decide if it were a solid ovarian tumour, or a pedunculated fibrous outgrowth from the fundus of the uterus. In order to assist in determining this question, as the uterine sound would not pass the canal of the cervix uteri, I divided the cervix with Dr. Simpson's hysterotome, and the sound then passed to the extent of six inches. This was thought to be conclusive evidence that the tumour was uterine, especially

as the catamenia were abundant, and the tumour and uterus moved together in all directions. Then arose the question whether, as the tumour was evidently killing the woman by keeping up the collection of ascitic fluid, it would be justifiable to remove it. This was settled in the negative, on account of the state of the chest; for, after removing the ascitic fluid a second time, there still remained a troublesome cough and dyspnoea. There were the physical signs of effusion in the right pleural cavity, but a good deal of doubt was expressed by different physicians who examined her as to the amount of this effusion, and how far dulness depended on the fluid, on consolidated lung covered by a thin layer of fluid, or on displaced liver. Under these circumstances it was decided not to interfere surgically. The patient went home again and took a course of bichloride of mercury and bark, under which, with an occasional return to cod-liver oil, the breathing improved considerably, and she recovered some strength; but the abdominal enlargement considerably increased.

She was admitted, for the third time, on June 8, 1859. The tumour had undergone a remarkable change. It was, at least, double its former size, and, though still hard below, was distinctly fluctuating above. It extended from the pelvis to half-way between the umbilicus and ensiform cartilage. The uterus only admitted the uterine sound two and a half inches, and the tumour could be moved freely upwards without affecting the position of the uterus; though on pressing it backwards the uterus moved in the same direction. The tumour was surrounded by a large quantity of ascitic fluid. The largest circumference of the abdomen was at about an inch above the umbilicus, where the measurement was forty-four inches. The distance from the ensiform cartilage to the symphysis pubis was twenty-one inches, the umbilicus being mid-way. The general health is far better than before; she is able to walk about, has a good appetite, and sleeps well, but can only sleep when lying on the right side. There is slight cough, but much less than before. The catamenia appeared once last December, but since then she saw nothing till a week ago, when the flow came on, lasted three days, and was in about the usual quantity. She was placed on a liberal diet, with wine and beer, and ten minims of the muriated tincture of iron were given three times a day. The urine is natural in quantity and appearance, contains no albumen, but some phosphates.

A consultation was held, when the state of the chest became the subject of anxious consideration. The presence of some fluid in the right pleural cavity was undeniable, but the

lung played with tolerable freedom, and it was decided that there was nothing in the state of the chest to forbid operation. On the contrary, it was hoped that by removing the tumour, the cause of the pleural effusion would also be removed. It was clear that there would never be a more favourable time for operation, as the tumour was increasing rapidly. Still the operation was decided on, rather in compliance with her earnest wish to obtain relief than by the advice of the medical staff.

June 17th. Chloroform was administered by Dr. Priestley, and I commenced by making an incision through the integuments over the linea alba from two inches above the umbilicus curving round it down to two inches above the symphysis pubis. When the bleeding had ceased, the peritoneal cavity was opened to the same extent, the tumour being pressed forwards by Dr. Routh, as some twenty or thirty pints of the ascitic fluid were escaping. It became necessary to extend the incision upwards towards the ensiform cartilage on account of the large size of the tumour. Some rather extensive adhesions of the omentum, and of three portions of intestine were broken down, and then the tumour was pressed out through the wound. A large cyst at the upper and back part of the tumour gave way at this time, and it is probable that some of the fluid contents passed into the abdominal cavity. The pedicle was very short; or it might almost be said that there was no pedicle, the tumour being closely applied to the right side of the fundus of the uterus, the Fallopian tube much thickened and elongated, being closely attached to the walls of the tumour. A clamp was passed, however, between the uterus and the tumour, and the tumour separated by cutting it off, leaving a mushroom-shaped piece of it embraced by the clamp. A vessel in the substance of this piece of the tumour bled a little, but it was stopped by putting on a second clamp, and a strong twine ligature, the first clamp not including the whole of the part connecting the tumour with the uterus. The edges of the wound were then brought together by harelip pins, including the whole thickness of the abdominal parietes, and by intermediate superficial sutures of silver wire. Before the wound was finally closed, the ascitic fluid still remaining in the cavity was allowed to run out, and the patient was then lifted to bed.

The tumour consisted of a large lower solid portion, simply fibrous in structure, and of a large upper cyst with fibrinous clots adhering to the cyst wall. When the contents were removed the tumour weighed seven pounds and a half.

The patient remained very low for about an hour after the

operation, but recovered after taking some brandy and water, and vomiting. At 7 o'clock, P.M., she began to complain of pain in the back and abdomen, which was relieved for a time by an injection of fifteen minims of laudanum and two ounces of water into the rectum. She could only lie on her right side. The injection was repeated at half-past 8, and at half-past 10 o'clock the report is:—"Much improved; skin moist and warm; pulse 120; she slept for the last two hours without waking; and has not been sick again; no pain." Some clear urine was removed by the catheter.

Day after the operation. Slight sickness continued early in the morning, but she feels much better; pulse 108; tongue moist. The bed being saturated with ascitic fluid, which had continued to dribble beside the clamp, she was put on a dry bed, and the portion of the tumour projecting beyond the clamp was removed, as it was becoming offensive. She complained again at noon of slight abdominal pain, which was again relieved by the opium enema; she slept a good deal during the afternoon; skin warm and moist; pulse 100; breathing rather rapid, and a wish to cough, which was suppressed as it caused pain. She took some champagne and brandy and water, in small quantities, at intervals, during the day, but could not keep anything else on the stomach. The sickness increased towards night, and the pulse became more rapid and feeble.

Second day. During the night she complained of occasional pain, which she said was relieved by vomiting. Towards the morning the vomiting increased in frequency, and the pulse became more rapid and smaller. Enemata of brandy and water were administered; but she gradually sank, and died forty hours after the operation.

Examination three hours after Death.—There were from two to three pints of clear serum in the peritoneal cavity, no blood nor clots. The peritoneal aspect of the wound was perfectly united, the pins being quite hidden from view by the fold of membrane on either side. There was evidence of peritonitis to a considerable extent in the parietal portion of the membrane, especially on either side of the wound, and over the folds of intestine in apposition; the portion of omentum which had been adherent was also thick, injected, and hard. The peritonitis did not appear to have extended to the more deeply-situated folds of the intestine. About a pint of serous fluid had gravitated into the pelvic cavity. The peduncle was completely circumscribed by the ligature; it consisted of the Fallopian tube, and broad and round ligaments. The ligature

was tied within half an inch of the fundus of the uterus. The opposite ovary was of natural size; but both it and the Fallopian tube appeared to be congested. The uterus appeared to have been the seat of old peritonitis, as there were patches of organized lymph on its posterior surface. In the right pleural cavity there were upwards of six pints of clear serum; the lung was compressed and lying close to the spine, but it was still crepitant, and floated in water; the substance of the left lung was healthy, but there were extensive adhesions of both parietal and inter-lobular pleuræ. Nothing unusual in heart or pericardium, except a greater deposit of fat than ordinary near the apex of the heart.

Remarks.—This case, like the third and fifth, is an instance of a class of cases in which ovariectomy is resorted to as a last resource,—as the only thing to be done for a patient otherwise doomed to a speedy death. Large solid tumours, surrounded by ascitic effusion, in women broken down by long suffering, are among the most unfavourable cases the surgeon can meet with. Yet in the third and fifth cases such tumours were removed with the happiest results; and it appears probable that the pleural effusion in the present case had an important influence in preventing the recovery of the patient.

CASE VII.—*Multilocular Ovarian Cyst; Ovariectomy; Recovery.*

J. F., aged 29, a lady's maid, single; admitted to the Samaritan Hospital, May 17, 1859.

History.—Has been in good health until eighteen months ago, when she first noticed a hard swelling on the right side. This increased, and Mr. Burton, of Blackheath, diagnosed ovarian disease. Increase continued, and she was admitted into St. George's Hospital, under Dr. Lee, in August, 1858. She remained there ten weeks, and left with directions to return when tapping became necessary. The catamenia continued regular up to November, since then they have appeared every fortnight. She was readmitted to St. George's Hospital on the 1st of March, 1859. She was tapped, and thirty-one pounds of thick amber-coloured fluid removed. After three weeks she went to the country, where she remained for six weeks previous to her admission to the Samaritan Hospital.

State on admission.—A well-formed, middle-sized, rather delicate-looking person. The abdomen is greatly distended, measuring forty-one inches in circumference at the umbilicus, and nineteen and a half inches from the ensiform cartilage to the symphysis pubis. She suffers great pain from the disten-

tion, and from indigestion; the respiration is much impeded; fluctuation very distinct all over the abdomen; dulness on percussion anteriorly and laterally, but clearness in right lateral lumbar region; both lumbar regions, and left lateral lumbar dull; anterior wall of vagina depressed; uterus normal and movable, but pressed backwards; pulse rapid and feeble; thoracic organs healthy.

Progress of the Case.—May 18th. Has passed a very bad night, suffering from distention, but some relief was obtained by opiates and a purgative.

20th. It was decided in consultation that I should tap, and, if the cyst proved to be unilocular, inject iodine; while, if it were multilocular, I should perform ovariectomy if her general health improved, and before the cyst became so much distended again. Accordingly, I removed twenty-three pounds of viscid fluid, sp. gr. 1012, and, by the use of Dr. Hewitt's ovarian sound, satisfied myself that there was a cluster of smaller cysts within the principal one. Iodine, therefore, was not used. Some temporary relief was obtained by the tapping, and she left the hospital on May 27th, with directions to return when the girth reached thirty-six inches.

She was readmitted June 22, 1859, in much better health than before, and it was decided, after consultation, that I should remove the cyst.

24th. Chloroform was administered by Dr. Graham Weir, of Edinburgh. I made an incision four inches long, over the linea alba, midway between the umbilicus and symphysis pubis, dividing the tissues until the cyst was exposed. I then broke down some extensive, but very slight, adhesions to the parietes, first with the finger and then with the hand, and rapidly emptied the principal cyst by a large trocar; some traction was made on this cyst as it was being emptied, but it could not be withdrawn. A second interior cyst was then tapped and emptied, but the cyst still remained firm. I accordingly enlarged the incision until it extended from the umbilicus to about an inch from the symphysis pubis, and, after separating a large portion of the omentum (which adhered to the upper portion of the cyst) and a coil of intestines, the cyst was withdrawn, and the edges of the wound carefully pressed together to prevent protrusion of the intestines. The peduncle was short and very broad, but after separating some portions of it, which did not contain vessels, by the hand, it was secured by a clamp fastened close to the uterus, and the cyst cut away, leaving a portion projecting beyond the clamp. Considerable traction was necessary to keep the clamp outside the wound, but this

was effected, and the divided edges of the abdominal parietes, including the peritoncum, united by harelip pins and by intermediate superficial wire sutures. The opposite ovary had been examined and found healthy.

The tumour consisted of one large cyst, and a group of smaller ones, containing fluid of very different density: one contained almost pure blood.

She remained depressed for about two hours, when she became restless, and complained of intense pain all over the abdomen. A large linseed poultice, covered with linen so that it could be changed easily, was applied, very hot, over the whole abdomen, and an enema of thirty minims of laudanum given in two ounces of water. This gave great relief. Sickness continued troublesome, but she passed a tolerable night.

It is needless to give a daily report of the case further, as it was almost one of uninterrupted recovery. The opium enema was repeated occasionally when there was pain. The poultices were used constantly for several days. On the third day she suffered a good deal from flatus, which was relieved by an injection of turpentine and assafoetida in thin arrow-root, a copious motion following it. I removed the pins on the fourth day; on the fifth the catamenia appeared unexpectedly; on the sixth day she appeared rather low and feverish, and the pulse became feeble and rose to 110. I carefully examined the wound, and pressed out from one to two drachms of very fetid pus from the track of one of the pins. This gave almost immediate relief. Sickness continued troublesome at times during the first week. The clamp was removed on July 2nd, and the last of the superficial sutures on the following day. A fortnight after the operation she was sitting up in bed, eating and sleeping well, almost free from pain, pulse 80, and the wound quite healed, except at the spot where the peduncle had passed; here there was still a little fetid purulent discharge.

July 14th. Wound healed; convalescent. She left the hospital four weeks after the operation; and I saw her on the 11th of August, strong and well, feeling, she said, "better than she ever was in her life before."

Remarks.—The chief differences in the treatment of this case to those previously reported, were the use of very hot linseed poultices to the abdomen, frequently removed; the smaller use of opium; and the earlier clearing of the bowels by enemata. The relief afforded by the poultices was very great and unmistakeable. The clearing of the bowels on the third or fourth day, by enema, may appear bad practice to those accustomed to keep the bowels confined by opium for a week or

ten days; but after trying this plan I have become convinced that it is carried too far, leading to flatulent distention, keeping up sickness, and, probably, doing as much harm as the opposite extreme of those operators who give calomel and black draught if the bowels are not open on the second or third day. In this, as in all other cases, the surgeon will do well to cast aside routine treatment, and, following the dictates of common sense, adapt his measures to the varying circumstances of the case before him.

CASE VIII.—*Compound Ovarian Cyst; Ovariectomy; Convalescence.*

J. A., aged 47; married; admitted to the Samaritan Hospital, June 22, 1859.

History.—Married two years and a half ago, having been employed as a house-maid thirty-three years previous to marriage. Generally had good health; catamenia regular up to the age of forty-three, when they ceased, and only appeared once since, two years ago. Nine months after marriage she noticed some enlargement low down in the abdomen, and to the right side. She thought herself pregnant, and did not go under treatment for nine months longer; at that time she was treated for constipation, but the swelling and pain increased until January last, when she applied to Mr. H. Smith at the Westminster Dispensary, who detected ovarian disease, and tapped her; she filled again, and was tapped nine weeks after the first tapping; the third and fourth time the cyst filled at intervals of only three weeks: the fluid in each case being dark coffee coloured.

State on Admission.—A middle-sized, hectic looking woman, suffering from great pain both in the abdomen and back, dyspepsia and impeded respiration. A large ovarian cyst occupies the whole abdomen, and hard globular masses can be felt in the walls of the cyst on both sides.

Progress of the Case.—As she was very weak and restless, suffering from great pain, and a tendency to vomit, I decided, after consultation, to give some present relief by tapping, and then to endeavour to bring the general health up to a point at which ovariectomy might be performed with a better prospect of success. Accordingly, on the 26th of June, I removed eleven pounds of very thick fluid, which contained a great deal of decomposed blood, and coagulated fibrin. (This was afterwards explained by the fact that there had been a good deal of bleeding after the previous tapping.) She suffered from flatulent distention of the intestines for some days, and there

was some bleeding from the uterus. This was found to depend on a small polypus growing from one side of the canal of the cervix. I removed the polypus by torsion. During the next month she was put upon a liberal diet, with wine and beer, and improved so much in general health that it was decided, after careful consultation, to accede to the patient's wish to have ovariectomy performed.

July 25th. Chloroform was administered by Mr. Armstrong Todd, who used his new inhaler. I made an incision from five inches above the umbilicus, carrying it downwards in the median line to two inches above the symphysis pubis. One small artery was tied near the umbilicus. The peritoneum was divided along the whole extent of this wound as soon as the bleeding had ceased; extensive adhesions to the parietes on both sides were then broken down by the hand, and the cyst emptied by a large trocar. Adhesions to the omentum and small intestine were then carefully separated, but, before the cyst could be withdrawn, it was necessary to separate adhesions on the left side, by which the broad ligament, sigmoid flexure of colon, and Fallopian tube, were united with the cyst walls. The right ovary was that diseased, and the peduncle was formed of the right broad and round ligaments and Fallopian tube; but the left Fallopian tube was much thickened and elongated, and firmly adherent to the back and lower parts of the cyst, where the colon was also firmly attached. All these adhesions were broken down, the pedicle secured by a clamp, and the cyst cut away. There was then very free bleeding from several points where the cyst had been attached, and ten vessels had to be tied. Three of them were on different parts of the left Fallopian tube, and as this appeared to be so large and thick, and the left ovary (probably atrophied) could not be found, the tube was tied to the clamp, and fixed outside the lower part of the wound beside the peduncle. The wound was then united by harelip pins and superficial sutures, as in the cases previously reported. The ligatures were brought out about the centre of the wound.

The tumour was found to consist of one very large cyst, with a number of smaller cysts, and masses of semi-solid, pseudo-colloid substance in its walls.

It is unnecessary to follow the daily record of the case after operation, as it is merely one of almost uneventful recovery. Warm linseed poultices were kept on the abdomen; an occasional enema of twenty drops of laudanum in two ounces of

water was given when there was a little pain; the pulse varied from 90 to 112 during the first week; there was no vomiting till the third day; the harelip pins were removed on the third day, and the superficial sutures on the eighth; the wound united by first intention; the clamp was removed, and the bowels opened by warm-water enema on the fifth day. During the second week the only annoyance was from accumulation of flatus in the intestines, which was removed by the use of warm-water enemata. She had taken very little nourishment at first, but she soon began to take beef-tea, soda water and brandy, wine, and then the *mistura vini gallici*. On August 5th, two grains of quina were given three times a day, and on the 8th the dose was increased to three grains, as it seemed to have a good effect in diminishing the flatulent distention of the stomach and intestines. At the end of the month the wound had perfectly united, and the lower part had closed around the projecting end of the Fallopian tube, which was about the size of a strawberry. As she was anxious to leave the hospital, and was otherwise well, I removed the little projection on August 31st.

Remarks.—The chief peculiarity in the progress of this case, after operation, was the absence of vomiting. In my previous cases vomiting has been the most distressing symptom. The recommendation to give ice, or ice and opium, for some hours before the operation, was tried in the previous seven cases, but proved utterly useless. Ether was given instead of chloroform in the second case, also without any good effect. In my earlier cases I gave opium every four or six hours, or equivalent doses of morphia by suppository, keeping the bowels confined for eight or ten days after the operation; but thinking that this kept up sickness, and that the constipation led to flatulent distention, I discontinued this practice, only giving opium by enema, in small quantities, occasionally, when it was called for by pain, having the bowels opened about the fourth day by enema. The results of this treatment, combined with the constant use of hot poultices to the abdomen, have been most satisfactory. The patients have been in a far more natural state than before, suffering less from depression, nausea, pain, or flatulency, while the pulse has not been so rapid. Still the vomiting has been troublesome, and I determined to discontinue the use of ice before operation; it was not given in this case, but it would be unfair to attribute the absence of vomiting to this omission, as Mr. Todd finds that he is enabled, by the use of his inhaler, to keep patients narcotized by so

small a quantity of chloroform that vomiting is rare. Further observation, however, is needed to settle this important practical question.

I have now very briefly to offer a few remarks on the means of diminishing the mortality after ovariectomy. And I propose to consider how our object of saving life may be obtained.

1. By the selection of proper cases only for operation.
2. By the determination of the stage of the disease in which the operation is most likely to prove successful.
3. By careful preparations to avoid all unnecessary sources of danger.
4. By the use of anæsthetics to lessen the risk of *shock*.
5. By certain precautions in the performance of the operation. And
6. By careful after-treatment.

1. As to the selection of cases. Without entering into the wide question of the diagnosis of ovarian tumours, it may not be quite unnecessary to say that the surgeon should be quite sure the tumour is ovarian before he determines to perform ovariectomy, when we remember that this operation has been attempted in cases of pregnancy, of hydatid tumours of the liver, of colloid disease of the peritoneum, of other malignant growths within the abdomen, of fibrous tumours of the uterus, of excessive fatty deposit in the integuments, of ascites, and in cases where there was no tumour whatever. The more glaring of these errors are not likely to be committed again; but with all our care there are cases in which doubts can only be entirely removed by an exploratory incision.

Then as to the characters of the tumour, I have no doubt that the surgeon who would only operate on cysts containing fluid which could be easily emptied, and if non-adherent, withdrawn through a very small incision, would be more successful than another surgeon who removed solid tumours requiring the long incision. But the cases I have related, and very many others on record, show that the presence of extensive adhesions and large solid masses are quite consistent with a successful result.

The cases in which the operation certainly ought not to be performed are those in which there is coexisting disease of some important organ. If all the patients who had died after ovariectomy from old standing diseases of the lungs or kidneys were eliminated from the catalogue, the results of the operation would appear in a far more favourable light. The ope-

ration is discredited because it has been performed in ill-selected cases.

There are those who believe that the existence of adhesions, so far from contra-indicating the operation, are rather favourable than otherwise, inasmuch as the peritoneum, in its altered character, is not so likely to take an inflammatory action as when it is in a tolerably healthy condition. Many facts might be cited in favour of this view, and more against it; and it is one deserving of further inquiry.

2. As to the period for operation. There are surgeons who would only operate as a forlorn hope, when it is quite clear that the patient's days are numbered, and that if her life be shortened by the operation she cannot lose very much. Some, on the contrary, argue that this plan of operating *in extremis* has brought, and does bring, the operation into undeserved discredit; and that the less the general health of the patient has been shattered by the disease the more likely is she to survive a severe operation. To this it is replied that ovariectomy is an exception to the general rule, and that the most successful cases are those in which the patient has been most reduced by the disease, or the peritoneum most altered by extension. It is remarkable that in all the successful cases I have related, the disease was in a very advanced stage, while in the first fatal case it was in a much earlier period of development, and the general health comparatively little injured; but this point again requires more extended inquiry.

3. Patients have been exposed to unnecessary danger by being submitted to operation in a theatre, or in cold rooms, or in dry overheated rooms; or their limbs have been imperfectly covered and not protected from the fluid emptied from the cyst even after it has ceased. I have seen a patient's legs, thighs, and buttocks perfectly cold and wet from having been exposed for nearly an hour, uncovered, and lying on a sheet soaked with fluid. All this has been sufficiently insisted upon by Dr. Clay, Dr. F. Bird, and others, to render more than an allusion unnecessary.

4. *The use of Anæsthetics.*—The materials do not exist for a trustworthy comparison of the results of ovariectomy in cases where ether or chloroform were and were not administered. This is another question which can only be settled by future and more extended observation; but I firmly believe that the mortality *must be* diminished by the use of anæsthetics. The sickness which sometimes follows the use of chloroform is, of course, a great disadvantage, and the depressing effects might, in some cases, be too great; but, on the whole, I think, that by

greatly lessening the anxious apprehension of suffering which so often brings patients into an unfavourable condition for undergoing any operation, and by entirely preventing the shock at the time of the operation caused by the pain, by the knowledge that the abdomen was laid open, and by the manipulations of the operator and assistants, the good effects of anæsthetics must far outweigh any occasional ill-consequences.

5. Supposing that all the necessary preparatory measures have been taken,—a quiet, well-ventilated room secured, a good nurse provided, a couch and mattress placed in a good light, the room warmed to about 70°, and the air kept from being too dry by a kettle of water boiling on the fire; the patient dressed in a warm flannel gown, and the legs kept warm by woollen stockings and hot water cans, if needful; a good supply of soft, new, well-scalded sponge at hand; plenty of water at about 96°; soft flannel moistened in this water to protect any exposed intestines; all the necessary instruments for incision, tapping, securing vessels and the peduncle, and uniting the wound; an abdominal bandage; and a clean, warm bed ready to receive the patient; with chloroform, ether, wine and brandy;—there are still some points of practical importance which deserve notice.

First. As to the assistants or visitors. I think it unfair to a patient to expose her to any possible risk of putrid infection from students or surgeons engaged in the dissecting-room. On this ground I think the anatomical students at our large hospitals should not be admitted to the bed-side, and no visitor should be invited who has recently been engaged in a similar manner. Those present should only be enough to afford the necessary assistance to the operator, not crowding round him, nor impeding the supply of air to the patient.

Second. The *incision* should be exactly in the median line, so that integument and aponeurosis only need be divided before arriving at the peritoneum; it should not reach sufficiently near the pubes to endanger the gravitation of serum into the areolar tissue around the bladder and that of the pelvis generally, still less to endanger the bladder. Without running this risk, sufficient space can be often obtained below the umbilicus. If more be required, the incision can be carried upwards towards the ensiform cartilage, still in the median line, but with a curve round the umbilicus.

Third. In case of any doubt as to the exact boundary of the cyst, it is far better to open it than to run any risk of unnecessarily detaching the peritoneum from the abdominal walls.

Fourth. In cases where the cyst contains fluid it is well to use a large trocar, in order to save time; and to have an elastic tube attached to the canula, so that the fluid may be removed without wetting the patient, and while the abdomen is still covered

This modification of the trocar is of some importance. Tapping the abdomen with an ordinary trocar is a very clumsy proceeding. It is necessary to have basins held up to the canula, and these, as they are filled, are emptied into pails, amid much splashing, and unnecessary exposure and wetting of the patient. In all cases of tapping the chest or abdomen, or opening large abscesses, I have, for several years past, been in the habit of using the canula of Schuh, of Vienna, and attaching an elastic tube to it, thus conveying the fluid away quietly and neatly without alarming the patient, or wetting her linen, while the entrance of air into the space occupied by the fluid evacuated is rendered impossible. More recently I have used a still simpler and equally convenient instrument, first described by Mr. Charles Thompson, of Westerham, in the *Medical Times and Gazette* of March 27, 1858. This instrument is represented in the annexed wood-cut.



Fig. 2.

The trocar is made to fit the canula closely, like the piston of a syringe; there is an opening from the lower part of the canula, on to which an elastic tube can be fastened; I have added a stop-cock to the elastic tube, a few inches from the canula, in order that the rate at which the fluid flows off may be regulated, should the patient suffer from its too rapid evacuation.

In the next wood-cut the instrument is shown with both the trocar withdrawn and the tube attached.

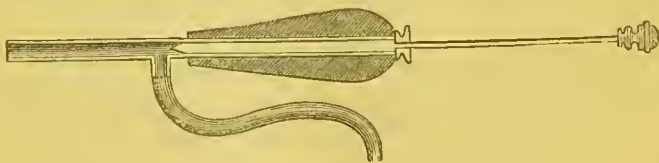


Fig. 3.

In ovariotomy the entrance of air into the sac is of no importance, and the mode of using this instrument is apparent;

but in simple tapping of ovarian cysts, as in evacuating fluid from the pleural or peritoneal cavities, or from the sac of large abscesses, it is of vital importance to prevent the entrance of air, and this may be done by drawing the piston back, as in fig. 3, placing the end of the elastic tube in a basin of water, and withdrawing the air from the tube and canula by suction, or by a syringe fitting the end of the canula. If the end of the tube be kept under water, and the piston be pushed forward, ready for use, the elastic tube is kept filled with water, which meets the fluid from the cyst when the operation has been commenced, and a syphon is formed. I think few surgeons who have once used this instrument, will ever use an ordinary trocar again for tapping either chest or abdomen.

Fifth. In breaking down adhesions it is far safer to use the hand than the knife. Should any portion of adherent omentum or mesentery contain large vessels, these should be tied or twisted at once, to prevent bleeding into the peritoneal cavity, and as it might be very difficult to find the bleeding point if once separated. In case of firm, tough adhesions the *écraseur* might prove very useful. Should there be adhesion to the intestines, or any viscus so firm that separation is very difficult, it might be better to cut away that portion of the cyst, leaving it adherent, than to run any risk of injuring an important organ; but in this case it would be desirable to remove the inner secreting coat of the cyst, if possible.

Sixth. In drawing out the cyst caution is required that the cyst only is drawn out; and, in removing a solid tumour, care is necessary that it does not fall suddenly and tear through any portion of the peduncle, thus giving rise to hemorrhage.

Seventh. In securing the peduncle ligatures were used in the first and second cases, clamps in all the others; but in the third and fourth these ligatures also became necessary, as in each case a portion of peduncle slipped from the grasp of the clamp. This danger, however, was avoided in the other cases, by taking care not to cut the cyst or tumour too close to the clamp, but leaving at least an inch projecting beyond the line of constriction. If ligatures be used, it should be remembered that a single one can very rarely be sufficient; and that cases are on record where patients have died on the table from a single ligature slipping, and it being afterwards impossible to find the bleeding vessels. The peduncle should be carefully transfixed, and tied in portions not broader than a finger. Perhaps it might be well to divide the round ligament with a knife, only tying the remainder of the peduncle; and I think it extremely probable that the *écraseur* may completely do

away both with the ligature and the clamp; as it might be used very slowly, and the peduncle not entirely separated for some hours after the wound was closed.

The annexed wood-cut shows the manner in which the

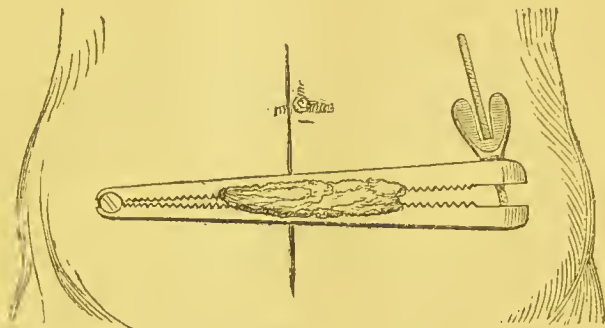


Fig. 4.

peduncle is embraced by the clamp, which lies across the wound, and prevents the sloughing stump from slipping into the abdominal cavity. In the drawing this instrument is half the real size, so that the body, to be in proportion, should be half the life size. I used this clamp in Case II., having it made like Ricord's fenestrated forceps for circumcision, with a screw for fixing. But it was not easy to apply, owing to the fixed stem; and as it was made of steel the rust which formed on it caused some irritation of the skin around the wound, although it was protected by lint. I therefore had an instrument made with a movable stem, and with two screws instead of one, in order to insure a more equable pressure on all parts of the peduncle;

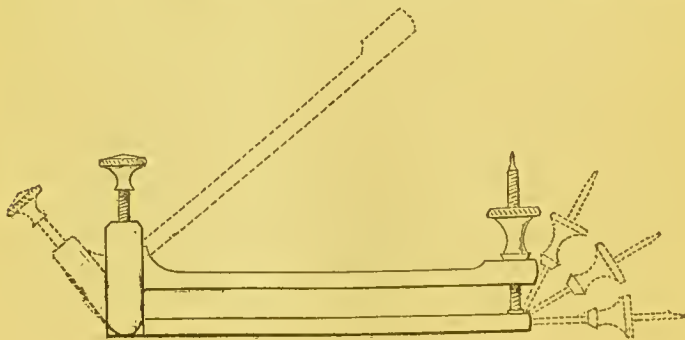


Fig. 5.

and it was strongly gilded to prevent rusting. This clamp is represented in the above wood-cut, the dotted lines showing

the manner in which the blade and stem are moved. I used this instrument in Case III., and I have since had the screws made flat instead of round, as, when the surgeon's hands are bloody, it is not easy to turn the round screw. In Cases VI. and VII. I used the calliper clamp, as originally devised by Mr. Hutchinson; but in Case VIII. I returned to my own, and believe it to be that which is most readily applied, which makes the most equable pressure on the peduncle, and lies the most easily, of any I have seen, upon the wound afterwards. The secret of safety from hemorrhage, in using any clamp, is to leave a sufficient amount of tissue projecting to give security against retraction of divided tissue, or slipping of the clamp,—in other words, not to cut away the tumour too close to the clamp.

Eighth. By carefully cleansing the peritoneum from all blood, clotted or otherwise, or any of the contents of the cysts which may have escaped. I think far more good is done by removing matter which would subsequently decompose, than harm by any irritation of the peritoneum with soft sponges. In this and previous stages of the operation the intestines should be kept as much as possible from protruding, by an assistant holding the edges of the wound together; and when intestine is exposed it should be protected by the warm moist flannel. Artificial serum has been used for this purpose instead of plain water, but I should certainly prefer the latter.

Ninth. In cases where it can be done without undue traction upon the uterus, the fixing the stump of the peduncle outside the peritoneal cavity appears to be a most important safeguard against peritonitis, and the low fever caused by absorption of the putrid matter flowing from the decomposing stump. Any one who sees the quantity of filthy sanies surrounding the stump as it lies on the abdomen of a patient day after day before it separates, must be struck with the danger attendant on such a process going on within the abdomen, even though this diffusion were checked by protecting effusion of lymph. It remains for a statistical inquiry to show how far mortality has been diminished in cases where the new plan (first recommended, I believe, by Mr. Duffin) was adopted.

Tenth. For bringing the edges of the wound together I think gilded harelip pins,—or pins of the *passive* iron-wire introduced by Dr. Simpson,—with the twisted suture, are the most trustworthy. The whole depth of the wound is brought together, and the pins act as splints, preventing any escape of intestine, an accident which has happened by the giving way of ordinary sutures. A few superficial sutures of silver, or iron-wire, may also be advisable to secure perfect apposition of the

divided edges of skin. I have found cotton-wool the most comfortable covering for the wound; and as an abdominal belt, nothing answers better than a double fold of flannel, kept from slipping upwards by a strip of linen passing round each thigh, and pinned to the lower edges of the flannel. Experiments on dogs, rabbits, and guinea-pigs, have convinced me that it is better to perforate the divided edges of the peritoneum by the harelip pins, so as to press two folds of the peritoneum against each other, than to run any risk of contact of the peritoneum with the divided tissues of the abdominal parietes. But as I intend to make these experiments the subject of a special communication to one of our learned societies, I merely state the result here for the information of other operators.

6. On careful nursing and judicious after-treatment a great share of success must depend. In many of the cases of ovariectomy reported, it seems perfectly wonderful that the patient has survived the after-treatment. Bleeding, leeches, blisters, calomel and purgatives, and starvation, have often been prescribed. Who can wonder at the death of the patient? The wonder is that so many have survived all this. The great objects appear to me to be to keep the patient perfectly quiet, free from pain, and thoroughly clean; the surgeon should not be led by the fact of the pulse being very rapid to fear peritonitis, and adopt active measures. It has seemed to me that the rapidity of the pulse is owing, in a great measure, to the return of the heart to its normal situation; but whether this be so or not it is certainly no ground for active measures. With the exception of opium, given with the precautions I have already indicated, I am disposed to attach far more importance to hygienic measures than to medicinal treatment. A well-ventilated room, warm, but not unpleasantly so to the patient, the air comfortably moist, and perfect quiet, seem to me to be the chief requisites. With the object of maintaining rest, the patient should not get up to pass water, but the catheter should be used every six hours. One good effect of the opium is to keep the bowels quiet, but if there be much flatulence I do not think it is well to keep up the state of constipation too long. I have never seen any good done by O'Beirne's tube in relieving flatulence. A little soda in peppermint water, or chloric ether with aromatic confection, seems to give as much comfort as anything; but this flatulence is always a troublesome symptom for some days. The intestines seem to miss their accustomed support or pressure. The application of warmth and moisture to the abdomen, by means of a warm linseed-meal poultice, is particularly grateful to the patient, and I feel disposed to regard

it as of considerable importance in the after-treatment. As to food, I have not been disposed to urge it until there was a decided appetite, but to leave beef-tea, arrow-root, with or without wine or brandy, rice-water, and barley-water, or a little tea and dry toast with the nurse, to be given very much as the patient wished for them, and, after a few days, some solid food. The fetid stump I have kept covered by a muslin bag of peat-charcoal, changed once or twice a day, in order that the patient might not be nauseated by the fetid odour which would otherwise proceed from it. I have not disturbed the wound until union was perfect; and if gilded pins or metallic sutures be used they may be left with safety for many days; though I believe the best plan is to remove the pins on the third or fourth day, leaving the superficial sutures three or four days longer. So soon as the patient is able to get about pretty well, country air is the best restorative.

I should be content with thus bringing before the profession a very imperfect sketch of what I have been taught by a study of the recorded cases of ovariectomy and by my own experience, submitting with very great diffidence the conclusions at which I have arrived, to the judgment of many whose observation of ovarian disease has been far greater than mine; but I feel that some reply is wanting to those who say that ovariectomy is an unjustifiable operation—one so dangerous to life that it ought never to be performed under any circumstances. I do not wonder that such a feeling should be entertained by many. I know well how painful it is to a surgeon to feel that he has shortened the life of a patient—that a woman who might have lived months, perhaps years, has died within a few hours of the attempt he has made to restore her to perfect health. But there is a reverse to the picture; for as surely as the end of some patients may be hastened, others are relieved from a life of suffering, and the surgeon's noblest end is attained—the complete cure of the diseased person without mutilation of any part of the body. In this and other respects the operations of ovariectomy and lithotomy in the adult are singularly analogous. In both, the sufferer is subject to a disease which causes great pain, or great discomfort; which may possibly go on for years without causing death, but which, if left alone, entails a miserable existence and a painful end. The stone in the one case, the tumour in the other, may be removed by the surgeon; but the attempt to save life may hasten death, and the proportionate mortality of the two operations is not very different. I am not about to append statistical tables to decide whether the mortality after ovariectomy has been 30, 40, 50, or

60 per cent. It may be made anything the compiler pleases by excluding, or not, cases in which errors of diagnosis, the obvious faults of inexperienced operators, mistakes in after-treatment, and coexistent diseases, have had a share in the fatal result. I might reply to Simon's tables of forty-six deaths out of sixty-four cases in Germany, that Dr. Clay, of Manchester, up to last year had had eighty-seven cases, and only twenty-seven deaths. I might even point to the encouraging results of my own limited experience; but I leave an extended statistical inquiry for future labour, with the simple remark that, taking the most unfavourable view the opponents of the operation have been able to substantiate, the mortality is not very much greater than that after lithotomy in the adult. It is not generally known, but it is true, that after the age of fourteen, more than one-half of those submitted to lithotomy in the hospitals of London die very soon after the operation; so soon, that the operation and the death must be looked upon as cause and effect. Yet nobody decries lithotomy as an unjustifiable operation.

But, it is said that by palliative treatment, by tapping, and by the injection of iodine, we have other means of relieving patients of ovarian disease, whereas the removal of the stone is the only means of relieving the calculous patient. I reply, that palliative treatment is of little avail—that tapping is in itself dangerous, even in the few cases to which it is applicable—and that, although injection of iodine is proved to be occasionally successful in those rare cases when the cyst is unilocular, yet its effects, even in these cases, are uncertain, and sometimes deadly.

An objection of far greater weight is the oft-repeated fact, that patients may live many years with ovarian disease, and die at last at a good old age. I answer, that it is no comfort to one woman dying of ovarian disease, to tell her that another woman has lived for fifty years with a disease somewhat similar. We do not purpose to perform ovariectomy in a case where a woman, if left alone, would probably live in tolerable comfort for several years. We let *her* alone, and do the little we can to increase her comfort. The cases in which we incur the heavy responsibility of performing a dangerous operation, are those in which the patient *must* take her choice on the one hand, between the risk attendant on such an operation, with a hope of perfect cure if all go well; and on the other, a life of suffering, to be terminated, at no distant date, by a miserable death. For in most cases it is a life of suffering, and great and constant suffering, mental and bodily; and death from the natural termination of the disease is one of the most trying we ever

witness. All must acknowledge the truthfulness of the following picture, drawn by one of the ablest and most logical of the general opponents of ovariectomy. In the last edition of his *Lectures on the diseases of women*, Dr. West, after describing a variety of painful symptoms under which women suffer in the earlier stages of ovarian disease, says (page 527) that as the end approaches we have "symptoms of the same kind as we see towards the close of every lingering disease, betokening the gradual failure, first of one power, then of another; the flickering of the taper, which as all can see, must soon go out. The appetite becomes more and more capricious, and at last no ingenuity of culinary skill can tempt it, while digestion fails even more rapidly, and the wasting body tells but too plainly how the little food nourishes still less and less. The pulse grows feebler, and the strength diminishes every day, and one by one each customary exertion is abandoned. At first the efforts made for the sake of the change which the sick so crave for are given up; then those for cleanliness; and lastly, those for comfort,—till at length one position is maintained all day long in spite of the cracking of the tender skin, it sufficing for the patient if in that respiration can go on quietly, and she can suffer undisturbed. Weariness drives away sleep, or sleep brings no refreshing. The mind alone, amid the general decay, remains undisturbed; but it is not cheered by those illusory hopes which gild, though with a false brightness, the decline of the consumptive; for step by step death is felt to be advancing; the patient watches his approach as keenly as we, often with acuter perception of his nearness. We come to the sick chamber day by day to be idle spectators of a sad ceremony, and leave it humbled by the consciousness of the narrow limits which circumscribe the resources of our art."

This picture drawn by Dr. West is true. We have all seen the poor creatures he so eloquently describes fading hopelessly away. But the resources of our art are not so limited as he would imply. We may be something more than idle spectators of a death-bed. We have a resource to offer,—hazardous it is true,—but one which has in many cases been crowned by a complete and brilliant success.

Some months ago I stood at one of these death-beds, in consultation with one of our highest authorities on ovarian disease. He was half convinced by my arguments in favour of an operation, but he felt his responsibility deeply, and said, "How dare I advise an operation we both know to be so dangerous?" I replied, "How dare you leave the poor woman to die without an effort to save her?"

These are the anxious doubts and grave responsibilities ever recurring in the life of practitioners of medicine and surgery. My earnest hope is, that by bringing this subject prominently forward for discussion, something may be done to solve the doubts and lighten the responsibility of those who seek for the "influence of authority in matters of opinion."

P. S.—While the foregoing pages were going through the press, the patient the subject of third case died. She had been quite well for several months, and had done farm-work in the field; but six weeks ago she began to complain of constipation, which increased, and she died on the 26th of August, with all the signs of intestinal obstruction. The peritoneum was studded with innumerable whitish, opaque, elevated deposits of fibrous cancer, from the size of a pin's head to that of a pea, and there were three very close strictures of the small intestine, caused, not by contracting lymph, but by the malignant deposit in the coats of the intestine. The peduncle of the removed ovary was fixed to the cicatrix, and disease had commenced in the other ovary, which was enlarged to the size of a small apple.



